

AMSAT News Service Weekly Bulletins

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AMSAT NEWS SERVICE

ANS-176

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:

ans-editor@amsat.org

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SB SAT @ AMSAT \$ANS-176.01

Field Day Reminders from AMSAT Director Contests and Awards

AMSAT News Service Bulletin 176.01

From AMSAT HQ SILVER SPRING, MD.

June 25, 2006

To All RADIO AMATEURS

BID: \$ANS-176.01

Bruce Paige, KK5D0, AMSAT Director Contests and Awards, passed along these Field Day reminders:

"1. Please watch the due date for submitting your scores from field day. If you e-mail your submission to me, I will send you a confirmation e-mail. If you do not get the confirmation e-mail, I did not receive your entry and you should send it again. I hate it when someone is inadvertently left out of the listing.

2. Take lots of pictures. The more pictures the better. Send them along with your e-mailed scores to me. That will make for a really good journal article.

3. Have a lot of fun."

[ANS thanks Bruce, KK5D0 for the above information]

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SB SAT @ AMSAT \$ANS-176.02

OSCAR-11 Report 16 June 2006 - Reception Reports Requested

AMSAT News Service Bulletin 176.02

From AMSAT HQ SILVER SPRING, MD.

June 25, 2006

To All RADIO AMATEURS

BID: \$ANS-176.02

Clive, G3CWV, filed this OSCAR-11 report and a request for reception reports:

"Due to solar eclipses (see below) the VHF beacon on 145.826 MHz. may only transmit for a short times, perhaps for only a few orbits, or even less, at irregular intervals. Any reception reports would be appreciated. Please e-mail xxxxx@amsat.org (replace xxxxx by g3cwv), or post to AMSAT-BB. If you are unfamiliar with the sound of OSCAR-11, there is an audio clip on my web site www.users.zetnet.co.uk/clivew/

During the period 06 May to 15 June 2006 nothing has been heard from the satellite. OSCAR-11's VHF beacon switched OFF on 05 May, as expected. This was just one day before the solar eclipses were due to start. These eclipses will continue until 04 August 2006, reaching a maximum duration of 22% around 19 June. If the satellite behaves in the same way as it did last year, the beacon may only be heard for very short times, during the eclipse season.

Unfortunately, due to holidays, I was unable to monitor the satellite around 15 May, when the first transmissions during the eclipse season were expected. However, I am indebted to Jeff KB2M, Bob G4VRC and Gustavo LW2DTZ who listened for the satellite while I was away.

The current status of the satellite is that all the analogue telemetry channels, 0 to 59 are zero, i.e. they have failed. The status channels 60 to 67 are still working. The spacecraft computer and active attitude control system have switched OFF, i.e. the satellite's attitude is controlled only by the passive gravity boom gradient, and the satellite is free to spin at any speed. When telemetry was last received it showed that one of the solar arrays had failed, and there was a large unexplained current drain on the main 14 volt bus. After 22 years in orbit the battery has undergone around 100,000 partial charge/discharge cycles, and observations suggest that it cannot power the satellite during eclipses, or sometimes during periods of poor solar attitude.

When last heard, the on-board clock showed a very large accumulated error. On 05 May it was 22.76456 days slow. The clock lost two hours during the last OFF period, and nine hours during the last transmission period. The observations of clock errors suggest that the clock may slow or stop when the battery voltage is low.

The watchdog timer now operates on a 20 day cycle. During the three months before the eclipses started, the ON/OFF times have been very consistent, and the average of many observations show this to be 20.7 days, i.e. 10.3 days ON followed by 10.4 days OFF. However, during the present solar eclipse season, power supply problems, may result in a low 14 volt line supply, which may cause the beacon to switch OFF prematurely, and reset the watchdog timer cycle.

The Beacon frequencies are -

VHF 145.826 MHz. AFSK FM ASCII Telemetry

UHF 435.025 MHz. OFF

S-band 2401.5 MHz. OFF

Listeners to OSCAR-11 may be interested in visiting my web site which contains an archive of news & telemetry data. It also contains details about using a sound card or hardware demodulators for data capture. There is software for capturing data, and decoding ASCII telemetry."

See: www.users.zetnet.co.uk/clivew/

[ANS thanks Clive, G3CWV for the above information]

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SB SAT @ AMSAT \$ANS-176.03

Call for Papers - 2006 ARRL/TAPR Digital Communications Conference

AMSAT News Service Bulletin 176.03

From AMSAT HQ SILVER SPRING, MD.

June 25, 2006

To All RADIO AMATEURS

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Technical papers are solicited for presentation at the 25th Annual ARRL and TAPR Digital Communications Conference to be held September 15-17, 2006 in Tucson, Arizona. These papers will also be published in the Conference Proceedings (you do NOT need to attend the conference to have your paper included in the Proceedings). The submission deadline is July 31, 2006.

Please send papers to:

Maty Weinberg

ARRL

225 Main Street

Newington, CT 06111

or you can make your submission via e-mail to: maty@arrl.org

Papers will be published exactly as submitted and authors will retain all rights.

[ANS thanks Steve, WB8IMY for the above information]

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SB SAT @ AMSAT \$ANS-176.04

ARISS Status 19 June 2006

AMSAT News Service Bulletin 176.04

From AMSAT HQ SILVER SPRING, MD.

June 25, 2006

To All RADIO AMATEURS

BID: \$ANS-176.04

1. ESC Camp Contact Successful

On Tuesday, June 13, the Euro Space Center Camp in Transinne, Belgium experienced an ARISS contact via the telebridge station W6SRJ, in Santa Rosa, California. Twenty students were able to ask twenty questions before losing contact with the ISS. Approximately 60 children from Gillingham School located in Dorset, U.K. were present and another fifty from France, visiting the center for the day, also witnessed the contact. Afterwards, a French teacher interpreted the questions and answers for the French children. Audio and photos of the event may be found on the ARISS-Europe web site. See: http://www.ariss-eu.org/2006_06_15.htm

The ESC Camp audio, fed through EchoLink AMSAT (101 377) and JK1ZRW (277 208) servers, had 24 connections, of which 3 were repeater nodes, from 9 countries. The audio was also fed through the IRLP Discovery Reflector 9010 with four connections made from the USA and Canada. One of the connections, in Saint John, New Brunswick, enabled students from a Grade 5 class at Quispamsis Elementary School, and representatives from the Canadian Broadcasting Corporation (CBC) Radio and Television services to listen in.

After the contact, an ARISS member conducted a half-hour question and answer session with the students. Among the questions asked were 6 which focused on ARISS activities.

2. Upcoming School Contact

The Kuwait Scientific Center in Salmiyah, Kuwait has been approved for a contact with the ISS via the telebridge station VK5ZAI in Australia. It is planned for Thursday June 29 at 18:10 UTC. The audio from this contact will be fed into the EchoLink AMSAT (101 377) and JK1ZRW (277 208) servers, and into the IRLP Discovery Reflector 9010. It will also be available on the Discovery Reflector's companion web site, www.discoveryreflector.ca:8000/listen.pls

The Scientific Center is dedicated to the advancement of the sciences and cultural heritage of Kuwait. It promotes public awareness, knowledge of and commitment to the care and conservation of the wildlife and ecosystems of the Arabian Gulf region, serving as a center of excellence for environmental education of the region. The Scientific Center Kuwait plans to web cast the event on: <http://www.tsck.org.kw>

3. Field Day Status

The Kenwood radio system were placed in crossband repeater mode beginning on Thursday, June 22 at 19:00 UTC and will remain active throughout the Field Day weekend. ARRL ran a web story about Field Day events entitled, "Field Day 2006: NASA Releases ISS North and South America Pass Times." See: <http://www.arrl.org/news/stories/2006/06/15/1/?nc=1>
Information may also be found on the AMSAT web site. See: <http://www.amsat.org/amsat-new/index.php>

4. Astronaut Training Status

Kenneth Ransom of JSC provided a refresher course for ESA astronaut Thomas Reiter, DF4TR, on Tuesday, June 13. School contact operations on the Ericsson radio were covered and a review of the Kenwood basic operations was given. Reiter is expected to fly on STS-121 in July and remain on the ISS to work with the station crew.

[ANS thanks Carol, KB3LKI for the above information]

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SB SAT @ AMSAT \$ANS-176.05
AMSAT-UK 21st International Space Colloquium

AMSAT News Service Bulletin 176.05
From AMSAT HQ SILVER SPRING, MD.
June 25, 2006
To All RADIO AMATEURS
BID: \$ANS-176.05

AMSAT-UK will hold their 21st International Space Colloquium at the University of Surrey, Guildford, England from Friday 28th until Sunday 30th July.

The director of NASA's Ames Research Center Dr. S. Pete Worden (Brig. Gen., USAF, ret.) will make a Keynote presentation entitled: "The Case for a Global NEO Mitigation Strategy" - looking at what we could do to avoid the threat of catastrophic collision by a Near Earth Object.

While most people have heard of the very rare "Mass Extinction" events such as that which wiped out the dinosaurs there is less awareness of the damage that can be inflicted by the far more frequent "Tunguska-class" objects.

These objects, about 100 metres or so in size, can strike up to several times per century with all the destructiveness of a nuclear weapon.

Dr. Worden has written or co-authored more than 150 technical papers in astrophysics, space science and strategic studies. He was scientific co-investigator for two NASA space lab missions. During the 1990's he was responsible for much of the US DoD work to develop small satellites, microsatellites and reusable satellite launchers.

For the full program see:
<http://www.uk.amsat.org/Colloquium/programme/>

[ANS thanks Trevor, M5AKA for the above information]

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SB SAT @ AMSAT \$ANS-176.07
Meteoroid Hits the Moon: The Movie

AMSAT News Service Bulletin 176.07
From AMSAT HQ SILVER SPRING, MD.
June 25, 2006
To All RADIO AMATEURS
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Last month, astronomers watched a meteoroid blast a hole in the lunar Sea of Clouds. Their video of the event is a must-see.

The video plays in 7x slow motion; otherwise the explosion would be nearly invisible to the human eye. "The duration of the fireball was only four-tenths of a second," says Bill Cooke, the head of NASA's Meteoroid Environment Office in Huntsville, AL. "A student member of our team, Nick Hollon of Villanova University, spotted the flash."

Taking into account the duration of the flash and its brightness (7th magnitude), Cooke was able to estimate the energy of impact, the dimensions of the crater, and the size and speed of the meteoroid. "It was a space rock about 10 inches (25 cm) wide traveling 85,000 mph (38 km/s)," he says.

If a rock like that approached Earth, it would never reach the ground. "Earth's atmosphere protects us," Cooke explains. "A 10-inch meteoroid would disintegrate in mid-air, making a spectacular fireball in the sky but no crater." The Moon is different. Having no atmosphere, it is totally exposed to meteoroids. Even small ones can cause spectacular explosions, spraying debris far and wide.

The movie can be seen at:

http://science.nasa.gov/headlines/y2006/13jun_lunarsporadic.htm?list835304

[ANS thanks NASA Science News for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

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This week's ANS Editor,
Al Marote, WA1LBG